suggests that adolescents and their families can, when given the option, make informed and reasoned choices about the flow of information about appointments. Health care providers should make every effort to provide a range of communication options to adolescents and not make assumptions about their preferences for sharing information with parents or guardians.

Sources of Support: SAHM Improving Understanding of Adolescent Vaccination through Innovative Local Public Health Demonstration Grant.

59.

HUMAN PAPILLOMA VIRUS VACCINE CONTINUATION, COMPLETION AND MISSED OPPORTUNITIES

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Purpose: Adolescent immunization rates for all vaccines are low when compared to the high rates of childhood immunization in the US. This is especially true with multi-dose vaccines, such as the Human Papilloma Virus (HPV) vaccine. The American Academy of Pediatrics recommends HPV vaccination for females and males from 11 to 26 years of age. Missed opportunities for the HPV vaccine are common. The CDC reports that in 2012, if all missed opportunities for initiation of HPV vaccination had been eliminated, coverage with = 1 dose of HPV vaccine could have reached 92.6%. Even after the vaccine has been initiated, there are still many occasions for missed opportunities. Adolescents who are 18-25 years old have particularly low rates of starting and completing the HPV vaccine. Delayed or non-completion of HPV series may decrease protection against HPV infection especially if exposure to HPV occurs prior to completion. Our objective was to examine HPV series completion in adolescent-specific, medicine and family planning clinics and to assess the frequency of missed opportunities when adolescents come in for any type of care.

Methods: Electronic medical records were queried for young women 18-25 years old who initiated the HPV vaccine series in the Adolescent Medicine, Young Mother's or Family Planning clinics at Children's Hospital Colorado from 1/1/2010 to 12/31/2011. Visits for preventive or non-preventive care during appropriate dosing intervals of HPV vaccine where the 2nd (4-14 weeks after 1st dose) or 3rd (21-40 weeks after 1st dose and >12 weeks after 2nd dose) doses were not administered were counted as "missed opportunities."

Results: 567 females initiated the HPV series during the study period and 22.2% of these patients completed the full series within one year of initiation. 33.5% of patients who did not receive their 2nd dose had at least one missed opportunity visit and 23.8% of patients who received the 2nd but not 3rd dose had a missed opportunity for completion. Women who initiated the vaccine in the Family Planning clinic were less likely to have missed opportunities than those who initiated in other adolescent clinics (29.8% vs. 42.2%; $p<0.005$). There were no racial or ethnic differences between those who completed the series and those who did not.

Conclusions: A significant number of adolescent females who initiated the HPV vaccine had missed opportunities for continuation and completion. This emphasizes the importance of provider-awareness of vaccine updates at every adolescent visit. The lower missed opportunity rate in Family Planning may reflect increased provider knowledge and counseling focused on the importance of HPV vaccination. Our overall completion rate is significantly lower than previously published rates and may reflect older adolescents' inexperience in managing their own preventive health care. Our results clearly identify the need for provider and patient interventions to improve vaccine series completion.

Sources of Support: No sources of financial support.

60.

VACCINATING SONS AGAINST HPV: RESULTS FROM A U.S. NATIONAL STUDY OF PARENTS

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Purpose: HPV is the most common sexually transmitted infection. The quadrivalent HPV vaccination was approved for use in males ages 9 to 26 in 2009 and recommended for routine administration in 2011. The purpose of this study was to uncover predictable commonalities amongst parents who chose to vaccinate their 11-17 year old sons against HPV.

Methods: We complied data from a U.S. national sample of parents with sons 11-17 years old using a web-based survey. Using a survey research company (SSI), we collected data from a national sample of U.S. adults in July and August of 2012. This survey covered parental demographics, political affiliation, and religious service attendance, parental discussion of sexual health topics with their sons, son's health care utilization and recent influenza vaccination history. We used binary logistic regression to model sons' receipt of 1 or more doses of HPV vaccine. Behavioral and sociodemographic predictors were first modeled individually for univariate associations and then significant predictors ($p<.05$) were combined in a multivariable model. All analyses were performed using SPSS 21.

Results: A total of 779 parents (52% female) with a mean age of 42 years (SD 11.54) completed the survey. Overall, 21.7% of parents reported that their son had received one or more doses of HPV vaccine. Increasing parental age was associated with decreased odds of HPV vaccination (OR 0.98; 95% CI 0.96-0.99). Parents who had discussed sexual health topics with their sons were more likely to vaccinate (OR 1.61; 95% CI 1.37-1.89). Sons who were evaluated by healthcare providers sometime in the last year more frequently received at least one dose of the vaccine (OR 2.22; 95% CI 1.12-4.40) as did those who had received a flu shot in the last two years (OR 1.82; 95% CI 1.45-2.26). Parent gender, religiosity, political affiliation, parental education, and sons' age were not significant predictors of HPV vaccination.

Adjusted odds ratios, controlled for ethnicity, confirmed that parental age (AOR 0.98; 95% CI 0.97-0.99), openness to discuss sexual health with sons (AOR 1.58; 95% CI 1.33-1.88), and receiving a flu shot in the last two years (AOR 1.71; 95% CI 1.36-2.15) remained independent predictors of HPV vaccination in a multivariate model.

Conclusions: The rate of male vaccination in this study, although low, is higher than 2011 national CDC data. There is a significant increase in rate of vaccination in those who have had exposure to health care providers. Both SAHM, and Bright Futures, recommend routine care for adolescents. This study suggests that vaccination rates would increase by following this practice. Additionally, the

finding that older parents were less likely to vaccinate their sons is interesting and may have implications for clinical practice, but requires further investigation.

Sources of Support: Merck MISP #38094 (Zimet, PI).

61.

LONGITUDINAL IMPACT OF KNOWLEDGE AND RISK PERCEPTIONS ON SEXUAL ATTITUDES AND BEHAVIORS AMONG 11-12 YEAR-OLD GIRLS FOLLOWING HPV VACCINATION

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Purpose: Our aim was to examine 1) the impact of knowledge about human papillomavirus (HPV) and the HPV vaccine on vaccine-related risk perceptions, and 2) the impact of knowledge and risk perceptions on sexual attitudes and behaviors among 11-12 year-old girls over the 30 months after receiving their first HPV vaccine dose.

Methods: Participants (n=25) were recruited from urban and suburban practices. They completed individual semi-structured interviews within 2 days of and at 6, 18, and 30 months after their first HPV vaccine dose. At each interview, knowledge, risk perceptions, and attitudes about sexual behaviors were assessed. History of sexual activity was assessed at 30 months. Risk perceptions were assessed by asking the participant whether she perceived that the HPV vaccine 1) decreased her risk of HPV and 2) decreased her risk of sexually transmitted infections (STIs) other than HPV. Appropriate risk perceptions were defined as participant report of decreased risk of HPV and no decreased risk of other STIs. Sexual attitudes were assessed by asking the participant how her risk perceptions about HPV and other STIs would influence her future decisions about sexual behaviors. Interviews were conducted face-to-face by a trained interviewer, audiorecorded, and transcribed by an independent transcriptionist. The authors analyzed the qualitative data systematically using a Framework analysis approach.

Results: Baseline knowledge about HPV and HPV vaccine was generally poor. In 12 of 25 participants, knowledge increased over time, primarily due to conversations with mothers and sexuality education in school. Most girls (n=21) developed appropriate risk perceptions about HPV by the 30-month visit; however, only half of girls (n=14) developed appropriate risk perceptions about other STIs. Girls who reported good baseline knowledge and/or increasing knowledge were generally able to articulate risk perceptions and developed appropriate risk perceptions over time. Conversely, girls who reported poor baseline knowledge and/or no increase in knowledge over time were unable to articulate risk perceptions and developed inappropriate risk perceptions. Among girls who could articulate how their risk perceptions about HPV and other STIs would influence their future decisions about sexual behaviors, all but one reported a plan to abstain from sex or practice safer sexual behaviors. While some girls endorsed feeling safer having sex following vaccination, the vast majority of girls (n=23) felt unsafe having unprotected sex and endorsed the need to practice safer sexual behaviors. By 30 months, 6 participants had initiated sexual activity. Among these girls, none had good or increasing knowledge and none had appropriate or increasingly appropriate risk perceptions. In contrast, the majority of girls who had not initiated sexual activity had good or increasing knowledge (11/19) and appropriate risk perceptions (10/19).

Conclusions: We found a link between good knowledge, appropriate risk perceptions, healthy sexual attitudes, and protective sexual behaviors. Providing education about HPV, STIs, and the HPV vaccine may help girls form appropriate risk perceptions, which may strengthen their decisions to practice safer sexual behaviors.

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